

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-47. (canceled)

48. (new) A method of determining the GNSS-defined positions of master and slave antennas on a structure including a satellite-blocking object, which method comprises the steps of:

providing master and slave GNSS receivers;

providing master and slave antennas;

connecting said master and slave antennas to said master and slave receivers respectively;

mounting said antennas in fixed, spaced relation on said moving object with said satellite-blocking object located between said antennas;

mounting said antennas for independent multipath effects;

constraining said antennas relative to each other by a fixed distance and a fixed geometry;

further constraining said antennas relative to each other by providing a common clock or synchronized clocks connected to said receivers (clock constraint);

receiving at one of said antennas GNSS signals from at least three satellites;

receiving at the other said antenna GNSS signals from no more than three satellites due to said satellite-blocking object blocking GNSS signals at said other antenna from all but three or fewer satellites; and

determining a position solution comprising the GNSS-defined positions of the antennas

using: (1) a position solution equation with six unknowns comprising three location unknowns and one clock unknown for the master antenna and two unknowns for the bearing of the slave antenna relative to the master antenna; (2) the position of the master antenna; (3) the known distance and geometry constraints of the spatial relation of the master antenna relative to the slave antenna, thereby eliminating an unknown from the position solution equation; (4) said GNSS signals being received at said receivers and utilized in computing said position solution in unison by operation of said common clock or synchronized clocks (clock constraint), thereby eliminating another unknown from the position solution equation; and (5) multipath mitigation by averaging multipath effects at said antennas due to said antennas being mounted for independent multipath effects.

49. (new) The method according to claim 48, which includes the additional steps of:

mounting a compass on said structure; and

determining said bearing from said master antenna to said slave antenna with said compass.

50. (new) The method according to claim 49, which includes the additional step of resolving an integer ambiguity using a single differencing technique based on said known constrained spatial relation of said master and slave antennas.

51. (new) The method according to claim 48, which includes the additional step of determining a point location on said structure based on said known constrained spatial relation of said master and slave antennas.

52. (new) The method according to claim 48 wherein said structure comprises a marine vessel and said signal-blocking object comprises a crane mount on said vessel.

53. (new) The method according to claim 48 wherein said structure comprises a terrestrial vehicle.

54. (new) The method according to claim 48 wherein said structure comprises a dam and said signal-blocking object comprises a portion of said dam positioned between said antennas.

55. (new) The method according to claim 48 wherein said structure comprises a wall and said signal-blocking object comprises a portion of said wall positioned between said antennas.

56. (new) The method according to claim 48, which includes the additional steps of:

providing multiple said slave antennas;

providing an antenna switch for each said slave antenna; and

selectively connecting said slave antennas to said slave receiver by closing respective said slave antenna switches.

57. (new) The method according to claim 56, which includes the additional steps of:

providing said slave receiver with a temperature sensor comprising a thermocouple; and

compensating for temperature drift signal delays based on ambient temperatures using inputs from said thermocouple.

58. (new) The method according to claim 48, which includes the additional

step of:

determining the GNSS-defined absolute locations of said receivers in an earth-fixed coordinate system.

59. (new) The method according to claim 58, which includes the additional steps of:

determining the GNSS-defined location of a point on said structure in an earth-fixed coordinate system based on: (1) said known distance and geometry constraints of the spatial relation of the master antenna relative to the slave antenna; and (2) known distance and geometry constraints of the spatial relation of the point to said master and slave antennas.